

STIC Search Report Biotech-Chem Library

STIC Database Tracking Number 191466

TO: James Rogers Location: 4a10 / 4c70

Wednesday, June 14, 2006

Art Unit: 1618

Phone: 571-272-7838

Serial Number: 10 / 751009

From: Jan Delaval

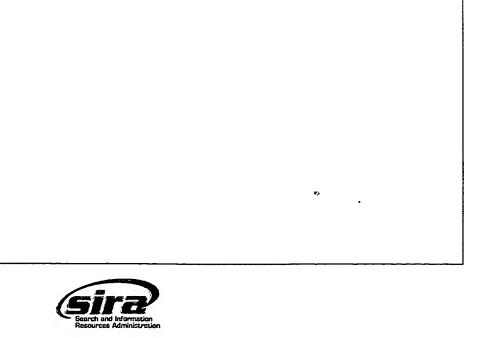
L'ocation: Biotech-Chem Library

Remsen 1a51

Phone: 571-272-2504

jan.delaval@uspto.gov

Search Notes



Scientific and Technical Information Center

WAR STREET STREET FORM

95/
Requester's Full Name: (STID) ane & William Royer (Examiner #: 82037 Date: 5-31-06
Art Unit: 1618 Phone Number: 2- 7338 Serial Number: 10/751,009
Location (Bldg/Room#): Results Format Preferred (circle): PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:
Title of Invention: Bib data sheet provided
Inventors (please provide full names):
Earliest Priority Date: 12/3//02
Search Topic:
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.
For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.
Please search the circled polymer in
claim 53, polyethylene glycol connected to cartonyl (i)
conected to 4-piperidone I f their arc
Conected to 4-piperiaone 1 1 there are
no hits you can search without the carbonyl group -c
·

STAFF USE ONLY Type of Search Vendors and cost where applicable
Searcher:NA Sequence (#) STN Dialog
Searcher Phone #: Questel/Orbit Lexis/Nexis
Searcher Location:
Date Searcher Picked Up: Bibliographic In-house sequence systems
Date Completed:
Searcher Prep & Review Time: Fulltext

=> fil reg FILE 'REGISTRY' ENTERED AT 15:33:33 ON 14 JUN 2006 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2006 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 JUN 2006 HIGHEST RN 887650-39-7 DICTIONARY FILE UPDATES: 13 JUN 2006 HIGHEST RN 887650-39-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> d ide can tot 128

```
L28 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2006 ACS on STN
RN
    724773-97-1 REGISTRY
ED
    Entered STN: 10 Aug 2004
CN
    Poly(oxy-1,2-ethanediyl), \alpha-[3-(4,4-dihydroxy-1-piperidinyl)-3-
    [3-(4,4-dihydroxy-1-piperidiny1)-3-oxopropoxy]-(9CI)
     (CA INDEX NAME)
MF
     (C2 H4 O)n C16 H28 N2 O7
CI
    PMS
PCT
    Polyether
SR
    CA
LC
    STN Files:
                 CA, CAPLUS, USPATFULL
```

PAGE 1-A

PAGE 1-B

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:128868

L28 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2006 ACS on STN

RN 724773-96-0 REGISTRY

ED Entered STN: 10 Aug 2004

CN Poly(oxy-1,2-ethanediyl), α -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropyl]- ω -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropoxy]-

(9CI) (CA INDEX NAME)

MF (C2 H4 O)n C20 H32 N2 O7

CI PMS

PCT Polyether

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-B

$$-N$$

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:128868

L28 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2006 ACS on STN

RN **724773-95-9** REGISTRY

ED Entered STN: 10 Aug 2004

CN Poly(oxy-1,2-ethanediyl), α -[3-oxo-3-(4-oxo-1-piperidinyl)propyl]- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

MF (C2 H4 O)n C16 H24 N2 O5

CI PMS

PCT Polyether

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A

PAGE 1-B

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:128868

L28 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2006 ACS on STN

RN **724773-94-8** REGISTRY

ED Entered STN: 10 Aug 2004

CN Poly(oxy-1,2-ethanediyl), α -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

MF (C2 H4 O)n C11 H19 N O4

CI PMS

PCT Polyether

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

$$\mathsf{MeO} = \begin{bmatrix} \mathsf{CH}_2 - \mathsf{CH}_2 - \mathsf{O} & & \\ & \mathsf{CH}_2 - \mathsf{CH}_2 - \mathsf{C} \end{bmatrix}_n \\ \mathsf{CH}_2 - \mathsf{CH}_2 - \mathsf{CH}_2 - \mathsf{C} \\ \mathsf{O} \\$$

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:128868

L28 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2006 ACS on STN

RN 724773-70-0 REGISTRY

ED Entered STN: 10 Aug 2004

CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

MF (C2 H4 O)n C9 H17 N O4

CI PMS

PCT Polyether

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

$$\begin{array}{c|c} O & \\ \hline \\ C - CH_2 -$$

- 3 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 144:114270

REFERENCE 2: 141:248692

REFERENCE 3: 141:128868

L28 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2006 ACS on STN

RN 724773-69-7 REGISTRY

ED Entered STN: 10 Aug 2004

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -[3-oxo-3-(4-oxo-1-

piperidinyl)propoxy] - (9CI) (CA INDEX NAME)

DR 750635-89-3

MF (C2 H4 O)n C9 H15 N O3

CI PMS

PCT Polyether

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

- 3 REFERENCES IN FILE CA (1907 TO DATE)
- 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 144:114270

REFERENCE 2: 141:248692

REFERENCE 3: 141:128868

=> fil hcaplus FILE 'HCAPLUS' ENTERED AT 15:33:51 ON 14 JUN 2006 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE COVERS 1907 - 14 Jun 2006 VOL 144 ISS 25 FILE LAST UPDATED: 13 Jun 2006 (20060613/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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PRAI US 2004-584505P

CLASS

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L31 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
    2006:29451 HCAPLUS
DN
    144:114270
ED
    Entered STN: 12 Jan 2006
ΤI
    Polymer-Factor IX moiety conjugates
    Bossard, Mary J.; Stephenson, Gayle
ΙN
PΑ
    Nektar Therapeutics Al, Corporation, USA
    PCT Int. Appl., 98 pp.
    CODEN: PIXXD2
DT
    Patent
LA
    English
CC
     63-3 (Pharmaceuticals)
    Section cross-reference(s): 1
FAN.CNT 1
    PATENT NO.
                        KIND
                               DATE
                                          APPLICATION NO.
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                               -----
                                          -----
                                                                -----
    WO 2006005058
                        A2
                                         WO 2005-US23745 20050630
ΡĮ
                              20060112
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
            LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
            NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
            SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
            ZA, ZM, ZW
        RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
            IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,
            CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM,
            KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG,
            KZ, MD, RU, TJ, TM
    US 2006052302
                        A1
                               20060309
                                          US 2005-172459
                                                                 20050630
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20040630

Ρ

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PATENT NO.
                 CLASS PATENT FAMILY CLASSIFICATION CODES
                 ____
                       _______
                        A61K0047-48 [I,A]; A61P0007-04 [I,A]; A61P0007-00
 WO 2006005058
                 IPCI
                        [I,C*]
 US 2006052302
                 IPCI
                        A61K0038-37 [I,A]; A61K0038-36 [I,C*]; C07K0014-755
                        [I,A]; C07K0014-435 [I,C*]
                 NCL
                        514/012.000; 530/383.000
AB
     Conjugates of a Factor IX moiety and ≥1 water-soluble polymers of
     polyethylene glycol or its derivative are provided. Also provided are compns.
     comprising the conjugates, methods of making the conjugates, and methods
     of administering to a patient compns. comprising the conjugates.
     4.1 mg \alpha-[4-[(2,5-dioxo-1-pyrrolidinyl)oxy]-3-methyl-4-oxobutyl]-
     ω-methoxy-poly(oxy-1,2-ethanediyl) was dissolved in 1 mL 2 mM
     hydrochloric acid, added to an aliquot of the Factor IX stock solution
containing
     0.07 mg Factor IX to reach 1:1 mol ratio, stirred for 3 h at room temperature
     and for 15 h at 4° to give a conjugate.
ST
     polymer Factor IX moiety conjugate; polyoxyalkylene succinimidyl deriv
     Factor IX conjugate prepn
IT
     Hemophilia
        (B; preparation of polymer-Factor IX moiety conjugates)
ΙT
        (derived, conjugates with water-soluble polymers; preparation of
polymer-Factor
        IX moiety conjugates)
IT
     Polyoxyalkylenes, biological studies
     RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological
     study); PREP (Preparation); USES (Uses)
        (mono(alkyl group)-terminated, conjugates; preparation of polymer-Factor IX
        moiety conjugates)
IT
     Polyamines
     RL: TEM (Technical or engineered material use); THU (Therapeutic use);
     BIOL (Biological study); USES (Uses)
        (polyethylene-, N-acyl, conjugates with Factor IX; preparation of
        polymer-Factor IX moiety conjugates)
TT
     Hemophilia
     Human
        (preparation of polymer-Factor IX moiety conjugates)
TΤ
     Polymers, biological studies
     RL: TEM (Technical or engineered material use); THU (Therapeutic use);
     BIOL (Biological study); USES (Uses)
        (water-soluble, conjugates with Factor IX; preparation of polymer-Factor IX
        moiety conjugates)
ΙT
     9001-28-9DP, Factor IX, conjugates with polyoxyalkylene derivs.
     99126-64-4DP, conjugates with Factor IX 174569-25-6DP, conjugates with
                187848-51-7DP, conjugates with Factor IX
                                                            346702-34-9DP,
     conjugates with Factor IX 724773-69-7DP, conjugates with Factor
     IX 724773-70-0DP, conjugates with Factor IX
                                                  820247-07-2DP,
     conjugates with Factor IX
                                 820247-09-4DP, conjugates with Factor IX
     RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological
     study); PREP (Preparation); USES (Uses)
        (preparation of polymer-Factor IX moiety conjugates)
     9002-89-5D, Polyvinyl alcohol, conjugates with Factor IX
IT
                                                                9003-39-8D,
     Polyvinyl pyrrolidone, conjugates with Factor IX
                                                        28902-82-1D,
     Polyacryloylmorpholine, conjugates with Factor IX 37316-87-3D, Factor
     IXa, conjugates with polyoxyalkylene derivs.
     RL: TEM (Technical or engineered material use); THU (Therapeutic use);
     BIOL (Biological study); USES (Uses)
        (preparation of polymer-Factor IX moiety conjugates)
ΙT
     724773-69-7DP, conjugates with Factor IX 724773-70-0DP,
```

RN 724773-70-0 HCAPLUS CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ C - CH_2 - CH_2 & \\ \hline \\ HO & \\ \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 \\ \hline \\ \end{array} \\ \begin{array}{c|c} D \\ \hline \\ \end{array} \\ \begin{array}{c|c} O \\ \\ \end{array} \\ \\ \begin{array}{c|c} O \\ \\ \end{array} \\ \begin{array}{c|c} O \\ \\ \end{array} \\ \begin{array}{c|c} O \\ \\ \end{array} \\ \\ \begin{array}{c|c} O \\ \\ \end{array} \\ \\ \begin{array}{c|$$

ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN 2004:740185 HCAPLUS 141:248692 DN Entered STN: 10 Sep 2004 Water soluble polymer-factor VIII conjugates for treatment of hemophilia A IN Bossard, Mary J.; Bentley, Michael D. PA Nektar Therapeutics Al, Corporation, USA SO PCT Int. Appl., 88 pp. CODEN: PIXXD2 DTPatent English LA IC ICM A61K0047-48 63-3 (Pharmaceuticals) Section cross-reference(s): 1 FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ______ ____ _____ PI WO 2004075923 20040910 WO 2004-US6034 20040226 WO 2004075923 A3 20050224 AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,

GQ, GW, ML, MR, NE, SN, TD, TG

BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,

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AU 2004215912
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                                            AU 2004-215912
                                                                    20040226
     CA 2517369
                          AΑ
                                20040910
                                            CA 2004-2517369
                                                                    20040226
     US 2004235734
                          A1
                                20041125
                                            US 2004-789956
                                                                    20040226
     EP 1596887
                          Α2
                                20051123
                                            EP 2004-715165
                                                                    20040226
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     BR 2004007882
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                                            BR 2004-7882
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     CN 1767857
                          Α
                                20060503
                                            CN 2004-80008422
                                                                    20040226
                          Ρ
PRAI US 2003-450578P
                                20030226
     WO 2004-US6034
                          Α
                                20040226
CLASS
 PATENT NO.
                 CLASS PATENT FAMILY CLASSIFICATION CODES
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 WO 2004075923
                 ICM
                        A61K0047-48
                 IPCI
                        A61K0047-48 [ICM, 7]
                 IPCR
                        A61K0047-48 [I,A]; A61K0047-48 [I,C*]
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                        A61K047/48H4P
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                 IPCI
                        A61K0047-48 [ICM, 7]
                 IPCR
                        A61K0047-48 [I,A]; A61K0047-48 [I,C*]
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                 IPCI
                        A61K0047-48 [ICM, 7]
                 ECLA
                        A61K047/48H4P
 US 2004235734
                 IPCI
                        A61K0038-38 [ICM, 7]
                 IPCR
                        A61K0047-48 [I,A]; A61K0047-48 [I,C*]
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                        514/012.000
                 ECLA
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                 IPCR
                        A61K0047-48 [I,C*]; A61K0047-48 [I,A]
 CN 1767857
                 IPCI
                        A61K0047-48 [I,A]
AΒ
     Conjugates of a Factor VIII moiety and one or more water-soluble polymers are
     provided. Typically, the water-soluble polymer is poly(ethylene glycol) or a
     derivative thereof. Also provided are compns. comprising the conjugates,
     methods of making the conjugates, and methods of administering compns.
     comprising the conjugates to a patient for treatment of hemophilia A.
     Thus, PEGylated B domain-deleted Factor VIII was prepared by reaction of
     Factor VIII deletion mutant with 20K mPEG-succinimidyl propionate or other
     PEGylation reagents. Mono-, di- and tri-PEGylated conjugates were formed
     which were analyzed and purified by size exclusion chromatog. These
     conjugates were all bioactive.
ST
     factor VIII PEG conjugate synthesis hemophilia treatment
IT
     Hemophilia
        (A; water soluble polymer-factor VIII conjugates for treatment of
        hemophilia A)
IT
     Polyoxyalkylenes, biological studies
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (conjugates; water soluble polymer-factor VIII conjugates for treatment of
        hemophilia A)
IT
     Polyamines
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (polyethylene-, N-acyl, conjugates; water soluble polymer-factor VIII
        conjugates for treatment of hemophilia A)
IΤ
     Amide group
     Disulfide group
        (polymer joined to factor VII by; water soluble polymer-factor VIII
        conjugates for treatment of hemophilia A)
TΤ
     Thioethers
     RL: MSC (Miscellaneous)
        (polymer-factor VII linkage containing; water soluble polymer-factor VIII
```

conjugates for treatment of hemophilia A) Amines, miscellaneous

IT Amines, miscellaneous RL: MSC (Miscellaneous)

(secondary, polymer-factor VII linkage containing; water soluble polymer-factor VIII conjugates for treatment of hemophilia A)

IT Human

(water soluble polymer-factor VIII conjugates for treatment of hemophilia A)

IT Polyoxyalkylenes, biological studies '

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(water soluble polymer-factor VIII conjugates for treatment of hemophilia
A)

IT 463-77-4, Carbamic acid, miscellaneous

RL: MSC (Miscellaneous)

(polymer-factor VII linkage containing; water soluble polymer-factor VIII conjugates for treatment of hemophilia A)

IT 9001-27-8DP, Blood-coagulation factor VIII, conjugates 25322-68-3DP, PEG, conjugates 72175-66-7DP, Blood-coagulation factor VIIIa, conjugates 109319-16-6DP, Blood-coagulation factor VIII, conjugates 113189-02-9DP, Blood-coagulation factor VIII, conjugates

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(water soluble polymer-factor VIII conjugates for treatment of hemophilia A)

IT 99126-64-4 174569-25-6 187848-51-7 259674-05-0 346702-34-9 724773-69-7 724773-70-0 750635-90-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(water soluble polymer-factor VIII conjugates for treatment of hemophilia
A)

IT 9002-89-5D, PVA, conjugates 9003-39-8D, PVP, conjugates 28902-82-1D, Poly(acryloylmorpholine), conjugates

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(water soluble polymer-factor VIII conjugates for treatment of hemophilia
A)

IT 724773-69-7 724773-70-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (water soluble polymer-factor VIII conjugates for treatment of hemophilia
 A)

RN 724773-69-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c}
O \\
C - CH_2 - CH_2 - O \\
\end{array}$$

$$\begin{array}{c|c}
CH_2 - CH_2 - O \\
\end{array}$$

$$\begin{array}{c|c}
D \\
\end{array}$$

$$\begin{array}$$

RN 724773-70-0 HCAPLUS

CN Poly(oxy-1,2-ethanediy1), α-[3-(4,4-dihydroxy-1-piperidiny1)-3oxopropy1]-ω-methoxy- (9CI) (CA INDEX NAME)

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ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
    2004:589444 HCAPLUS
ΑN
DN
    141:128868
ED
    Entered STN: 23 Jul 2004
TΤ
    Polymeric reagents comprising a ketone or a related functional group
IN
    McManus, Samuel P.; Kozlowski, Antoni; Shen,
    Xiaoming; Cook, Daniel C.
PA
    Nektar Therapeutics Al, Corporation, USA
SO
    PCT Int. Appl., 183 pp.
    CODEN: PIXXD2
DT
    Patent
LA
    English
IC
    ICM A61K0047-48
CC
    63-6 (Pharmaceuticals)
    Section cross-reference(s): 35
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                               DATE
                                          APPLICATION NO.
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            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO,
            NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
            TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
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            ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,
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                                                                 20031231 <--
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                         Ρ
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CLASS
PATENT NO.,
                CLASS PATENT FAMILY CLASSIFICATION CODES
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WO 2004060406
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                       A61K0047-48 [I,A]; A61K0047-48 [I,C*]; C08G0065-00
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                       A61K047/48H4P; C08G065/329; C08G065/331; C08G065/334D
CA 2509248
                IPCI
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                        C08G0065-334 [I,A]
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 US 2005031576
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                        A61K0031-785 [ICM, 7]; A61K0031-74 [ICM, 7, C*];
                        C08G0059-14 [ICS,7]; C08G0059-00 [ICS,7,C*]
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                        A61K0047-48 [I,A]; A61K0047-48 [I,C*]; C08G0065-00
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 EP 1581260
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                        C08G0065-334 [I,A]
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                        A61K047/48H4P; C08G065/329; C08G065/331; C08G065/334D
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                        C08H0001-00 [I,A]; C08G0065-331 [I,A]; C08G0065-334
                        [I,A]; C08G0065-00 [I,C*]
                 ECLA
                        A61K047/48H4P; C08G065/329; C08G065/331; C08G065/334D
AΒ
     Polymeric reagents comprising a polymer attached, either directly or
     through one or more atoms to a ketone or a related functional group such
     as ketone hydrate, thione, monothiohydrate, dithiohydrate, hemiketal,
     monothiohemiketal, dithiohemiketal, ketal, or dithioketal are provided.
     The polymeric reagents are useful for, among other things, forming
     polymer-active agent conjugates. Related methods, compns., prepns., and
     so forth are also provided. For example, to 3.0 mg of lysozyme dissolved
     in 1 mL of 20 mM sodium phosphate buffer (pH pH 5.0) was added 21 mg of
     PEG-\alpha-hydroxy-\omega-2-propanone di-Et ketal (preparation given). After
     15 min, 0.159 M solution of NaCNBH3 was added and the solution was stirred for
     20 h at room temperature Anal. of the reaction mixture by SDS-PAGE showed that
     PEGylated lysozyme was formed.
ST
     polymer reagent functional group prepn drug conjugate
TT
     Peptides, biological studies
     Proteins
     RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological
     study); PREP (Preparation); USES (Uses)
        (conjugates, with functional group-containing polymers; preparation of
polymeric
        reagents comprising ketone or related functional group for drug
        conjugation)
IT
     Polymers, preparation
     Polyoxyalkylenes, preparation
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (functional group-containing; preparation of polymeric reagents comprising
        ketone or related functional group for drug conjugation)
IT
    Drug delivery systems
     Functional groups
    Human
        (preparation of polymeric reagents comprising ketone or related functional
        group for drug conjugation)
IT
    Interferons
     RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological
```

study); PREP (Preparation); USES (Uses)

```
(a, PEGylated; preparation of polymeric reagents comprising ketone or
        related functional group for drug conjugation)
IT
    Interferons
    RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological
    study); PREP (Preparation); USES (Uses)
        (β, PEGylated; preparation of polymeric reagents comprising ketone or
        related functional group for drug conjugation)
ΙT
     14690-00-7
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (ethoxylation of; preparation of polymeric reagents comprising ketone or
        related functional group for drug conjugation)
IT
     524957-44-6P
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (preparation and methylation of; preparation of polymeric reagents
comprising
        ketone or related functional group for drug conjugation)
IT
     57-55-6, 1,2-Propanediol, reactions
                                         78-96-6, 1-Amino-2-propanol
                              122-51-0, Triethyl orthoformate
    97-64-3, Ethyl lactate
                                                                123-76-2.
                      617-35-6, Ethyl pyruvate
    Levulinic acid
                                                 9002-68-0, FSH
                                                                   9002-72-6,
                                       11096-26-7, Erythropoietin
                      9004-74-4, MPEG
    Growth hormone
    37698-53-6, Amphotericin B hydrochloride 41979-39-9, 4-Piperidone
    hydrochloride
                     61798-04-7, 1,3-Diaminoacetone dihydrochloride
                 81927-55-1, Benzyl 2,2,2-trichloroacetimidate
    80506-64-5
                                                                   92451-01-9
    143011-72-7, GCSF
                         159540-80-4
                                      174569-25-6
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (preparation of polymeric reagents comprising ketone or related functional
        group for drug conjugation)
    2040-44-0P
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                  7476-20-2P
                               70448-03-2P, 2-Benzyloxy-1-propanol
    84293-53-8P
                   104318-84-5P
                                  161927-25-9P
                                                 161927-26-0P
                                                                175172-61-9P
    384378-74-9P
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                                                  724773-81-3P
                                                                 724773-82-4P
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                    724773-84-6P
                                   724773-85-7P
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    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (preparation of polymeric reagents comprising ketone or related functional
        group for drug conjugation)
    1397-89-3DP, Amphotericin B, drug conjugates
                                                    9001-63-2DP, Lysozyme,
                                      9002-68-0DP, FSH, conjugates with PEG
    conjugates with PEG derivative
derivative
    9002-72-6DP, Growth hormone, conjugates with PEG derivative
                                                                    11096-26-7DP,
    Erythropoietin, conjugates with PEG derivative
                                                     143011-72-7DP, GCSF,
    conjugates with PEG derivative
                                      384378-74-9DP, drug conjugates
    724773-69-7DP, conjugates with lysozyme
                                               724773-71-1DP,
                                724773-72-2DP, conjugates with lysozyme
    conjugates with lysozyme
                                               724773-75-5DP, drug conjugates
    724773-73-3DP, conjugates with lysozyme
                                     724773-77-7DP, drug conjugates
    724773-76-6DP, drug conjugates
    RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological
    study); PREP (Preparation); USES (Uses)
        (preparation of polymeric reagents comprising ketone or related functional
        group for drug conjugation)
ΙT
     724773-69-7P 724773-70-0P 724773-94-8P
```

724773-95-9P 724773-96-0P 724773-97-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of polymeric reagents comprising ketone or related functional group for drug conjugation)

RN 724773-69-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

RN 724773-70-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \hline C - CH_2 - CH_2 - \\ \hline HO & \\ \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 - CH_2 - \\ \hline \end{array} \\ \begin{array}{c|c} O - CH_2 -$$

RN 724773-94-8 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

$$MeO = \begin{bmatrix} CH_2 - CH_2 - O \end{bmatrix}_n CH_2 - CH_2 - C \end{bmatrix}_0$$

RN 724773-95-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[3-oxo-3-(4-oxo-1-piperidinyl)propyl]- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

PAGE 1-B

$$-N$$

RN 724773-96-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropyl]- ω -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropoxy]-(9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 1-B

$$-N$$
 0

RN 724773-97-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 1-B

TT 724773-69-7DP, conjugates with lysozyme
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

jan delaval - 14 june 2006

(preparation of polymeric reagents comprising ketone or related functional group for drug conjugation)

RN 724773-69-7 HCAPLUS

CN Poly(oxy-1,2-ethanediy1), α -methyl- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \hline C - CH_2 - CH_2 - O \\ \hline \end{array} \begin{array}{c} CH_2 - CH_2 - O \\ \hline \end{array} \begin{array}{c} O \\ \end{array} \end{array} \begin{array}{c} O \\ \end{array}$$

=> fil uspatful

FILE 'USPATFULL' ENTERED AT 15:34:03 ON 14 JUN 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 13 Jun 2006 (20060613/PD)

FILE LAST UPDATED: 13 Jun 2006 (20060613/ED)

HIGHEST GRANTED PATENT NUMBER: US7062785

HIGHEST APPLICATION PUBLICATION NUMBER: US2006123525

CA INDEXING IS CURRENT THROUGH 13 Jun 2006 (20060613/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 13 Jun 2006 (20060613/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006

=> d bib abs hitstr tot

L32 ANSWER 1 OF 3 USPATFULL on STN

AN 2006:61133 USPATFULL

TI Polymer factor IX moiety conjugates

IN Bossard, Mary J., Madison, AL, UNITED STATES

Stephenson, Gayle, Madison, AL, UNITED STATES

PI US 2006052302 A1 20060309

AI US 2005-172459 A1 20050630 (11)

PRAI US 2004-584505P 20040630 (60)

DT Utility

FS APPLICATION

LREP NEKTAR THERAPEUTICS, 150 INDUSTRIAL ROAD, SAN CARLOS, CA, 94070, US

CLMN Number of Claims: 21

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 2534

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Conjugates of a Factor IX moiety and one or more water-soluble polymers are provided. Typically, the water-soluble polymer is poly(ethylene glycol) or a derivative thereof. Also provided (among other things) are compositions comprising the conjugates, methods of making the conjugates, and methods of administering to a patient compositions comprising the conjugates.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 724773-69-7DP, conjugates with Factor IX 724773-70-0DP, conjugates with Factor IX

(preparation of polymer-Factor IX moiety conjugates)

RN 724773-69-7 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \hline C - CH_2 - CH_2 - O & \hline CH_2 - CH_2 - O \\ \hline \end{array}$$

RN 724773-70-0 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \hline \\ C - CH_2 - CH_2 \\ \hline \end{array} \begin{array}{c} O$$

L32 ANSWER 2 OF 3 USPATFULL on STN

AN 2005:36902 USPATFULL

TI Polymeric reagents comprising a ketone or a related functional group

IN McManus, Samuel P., Brevard, NC, UNITED STATES

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PI US 2005031576 A1 20050210

AI US 2003-751009 A1 20031231 (10)

PRAI US 2002-437325P 20021231 (60)

DT Utility

FS APPLICATION

LREP NEKTAR THERAPEUTICS, 150 INDUSTRIAL ROAD, SAN CARLOS, CA, 94070

CLMN Number of Claims: 40

ECL Exemplary Claim: CLM-01-34

DRWN 3 Drawing Page(s)

LN.CNT 3974

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Polymeric reagents comprising a polymer attached, either directly or through one or more atoms to a ketone or a related functional group such as ketone hydrate, thione, monothiohydrate, dithiohydrate, hemiketal, monothiohemiketal, dithiohemiketal, ketal, or dithioketal are provided. The polymeric reagents are useful for, among other things, forming polymer-active agent conjugates. Related methods, compositions, preparations, and so forth are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 724773-69-7P 724773-70-0P 724773-94-8P

724773-95-9P 724773-96-0P 724773-97-1P

(preparation of polymeric reagents comprising ketone or related functional

group for drug conjugation)

RN 724773-69-7 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \hline C - CH_2 - CH_2 - O & \\ \hline \end{array} \\ \begin{array}{c} CH_2 - CH_2 - O \\ \hline \end{array} \\ \begin{array}{c} D \\ \end{array} \\ \\ \begin{array}{c} D \\ \end{array} \\ \begin{array}{c}$$

RN 724773-70-0 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

HO
HO
$$C - CH_2 - CH_2$$
 $C - CH_2 - CH_2$
 $C -$

RN 724773-94-8 USPATFULL

CN Poly(oxy-1,2-ethanediy1), α -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-y1)-3-oxopropy1]- ω -methoxy- (9CI) (CA INDEX NAME)

$$MeO = \begin{bmatrix} CH_2 - CH_2 - O \end{bmatrix}_n CH_2 - CH_2 - C \\ CH_2 - CH_2 - CH_2 - C \\ CH_2 - C$$

RN 724773-95-9 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -[3-oxo-3-(4-oxo-1-piperidinyl)propyl]- ω -[3-oxo-3-(4-oxo-1-piperidinyl)propoxy]- (9CI) (CA INDEX NAME)

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RN 724773-96-0 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropyl]- ω -[3-(1,4-dioxa-8-azaspiro[4.5]dec-8-yl)-3-oxopropoxy]-(9CI) (CA INDEX NAME)

PAGE 1-B

$$-N$$

RN 724773-97-1 USPATFULL

CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropoxy]- (9CI) (CA INDEX NAME)

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PAGE 1-B

IT 724773-69-7DP, conjugates with lysozyme

(preparation of polymeric reagents comprising ketone or related functional group for drug conjugation)

RN 724773-69-7 USPATFULL

CN Poly(oxy-1,2-ethanediy1), α -methy1- ω -[3-oxo-3-(4-oxo-1-piperidiny1)propoxy]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\$$

L32 ANSWER 3 OF 3 USPATFULL on STN ΑN 2004:299865 USPATFULL ΤI Polymer-factor VIII moiety conjugates IN Bossard, Mary J., Madison, AL, UNITED STATES Bentley, Michael D., Huntsville, AL, UNITED STATES PΙ US 2004235734 Α1 20041125 AΙ US 2004-789956 Α1 20040226 (10) US 2003-450578P PRAI 20030226 (60) DT Utility FS APPLICATION LREP NEKTAR THERAPEUTICS, 150 INDUSTRIAL ROAD, SAN CARLOS, CA, 94070 CLMN Number of Claims: 61 ECL Exemplary Claim: 1 DRWN 5 Drawing Page(s) LN.CNT 2640 CAS INDEXING IS AVAILABLE FOR THIS PATENT. AB Conjugates of a Factor VIII moiety and one or more water-soluble polymers are provided. Typically, the water-soluble polymer is poly(ethylene glycol) or a derivative thereof. Also provided are compositions comprising the conjugates, methods of making the conjugates, and methods of administering compositions comprising the conjugates to a patient. CAS INDEXING IS AVAILABLE FOR THIS PATENT. IT 724773-69-7 724773-70-0 (water soluble polymer-factor VIII conjugates for treatment of hemophilia A) RN 724773-69-7 USPATFULL CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -[3-oxo-3-(4-oxo-1piperidinyl)propoxy] - (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ \hline C - CH_2 - CH_2 - O - \\ \hline \end{array} \begin{array}{c|c} CH_2 - CH_2 - O - \\ \hline \end{array} \begin{array}{c|c} Me \end{array}$$

RN 724773-70-0 USPATFULL CN Poly(oxy-1,2-ethanediyl), α -[3-(4,4-dihydroxy-1-piperidinyl)-3-oxopropyl]- ω -methoxy- (9CI) (CA INDEX NAME)

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HO

O

C - CH_2 - CH_2

C - CH_2 - CH_2

O

C - CH_2 - CH_2
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```
=> d his
```

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L1
               1 S US20050031576/PN OR (US2003-751009# OR WO2003-US41743 OR US20
                 E MCMANUS/AU
                 E MCMANUS S/AU
L2
            136 S E5-E9
                 E MC MANUS S/AU
                 E KOZLOWSKI/AU
L3
             161 S E4-E7, E19-E22
                 E SHEN/AU
L4
               1 S E3
                 E SHEN X/AU
             119 S E3,E14
L5
                 E SHEN XIAO/AU
L6
             19 S E3, E22, E23
                 E SHEN XIAOMING/AU
L7
             54 S E2, E3
                 E COOK D/AU
L8
             147 S E3, E9, E10
                 E COOK DAN/AU
L9
             15 S E3, E6, E8
                 E NEKTAR/PA, CS
L10
             77 S E3-E35
                 SEL RN L1
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             80 S E1-E80
L12
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L13
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L14
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L15
             60 S L14 AND 1/NR
L16
              45 S L15 NOT TETRAMETHYL
L17
              44 S L16 NOT L13
              1 S L17 AND "(C2H4O)NC9H17NO4"/MF
L18
               2 S L13, L18
L19
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L20
L21
              90 S L20 NOT (TETRAMETHYL OR PENTAMETHYL)
L22
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L23
               2 S L12 AND 2/NR
L24
               4 S L19, L22, L23
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               6 S L24, L27
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L30 3 S L28

L31 3 S L30 AND L1-L10

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FILE 'REGISTRY' ENTERED AT 15:33:33 ON 14 JUN 2006

FILE 'HCAPLUS' ENTERED AT 15:33:51 ON 14 JUN 2006

FILE 'USPATFULL' ENTERED AT 15:34:03 ON 14 JUN 2006

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